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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/550,205	09/21/2005	Daniel Ballin	36-1939	1747
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EXAMINER				
KIM, EUNHEE				
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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

10/550,205

Applicant(s)

BALLIN ET AL.

Examiner

Eunhee Kim

Art Unit

2123

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 06 February 2008.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-6, 11, 12, 17, 19-23, 27, 29, 42, 43, 49, 50, 52, 56-58, 67 and 68 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-6, 11-12, 17, 19-23, 27, 29, 42-43, 49-50, 52, 56-58, 67-68 is/are rejected.
- 7) ☐ Claim(s) 1 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftperson's Patent Drawing Review (PTO-848)
- 3) ☒ Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date 02/06/2008, 10/10/2007
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date _____
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____

DETAILED ACTION

1. The amendment filed 02/06/2008 has been received and considered. Claims 1-6, 11-12, 17, 19-23, 27, 29, 42-43, 49-50, 52, 56-58, 67-68 are presented for examination.

Information Disclosure Statement

2. The information disclosure statement (IDS) submitted on 10/10/2007 is being considered by the examiner. However, "Chinese Office Action in a counterpart application" is not considered since there is no indication of the date.

Claim Objections

3. Claim 1 is objected to because of the following informalities:

The phrase "values; for behavioral output nodes of the behavioral framework and" would be better as "values for behavioral output nodes of the behavioral framework; and"

Appropriate correction is required.

Claim Rejections - 35 USC § 102

4. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

5. Claims 1-6, 11-12, 17, 19-20, 22-23, 27, 29, 42-43, 49-50, 52, 56-58, and 67-68 are rejected under 35 U.S.C. 102(b) as being anticipated by Ball et al. (US Patent No. 6,212,502).

As per claim 1, Ball et al. discloses a method of generating behavior for an object under the control of a behavioral controller comprising a framework of nodes, at least one node being arranged to map its input to provide output to other nodes in both a forwards and backwards direction through said framework of nodes and at least one node arranged to assign a global framework parameter value (Fig. 1-17 and the description), said method comprising:

receiving input associated with one or more behavioral actions (Fig. 1-17 and the description);

inferring for a plurality behavioral nodes in said framework, a behavioral parameter value from said input in accordance with said behavioral framework mapping said global parameter values in a forwards direction through each node of said framework (Fig. 1-17 and the description);

deriving output from the inferred plurality behavioral parameter values (Fig. 1-17 and the description);

for behavioral output nodes of the behavioral framework (Fig. 1-17 and the description)
and

generating equivalent behavior by the object using the derived output (Fig. 1-17 and the description).

As per claim 2, Ball et al. discloses wherein the framework has an internally flexible structure (Abstract, Col. 4 lines 55-67, Col. 5 lines 1-48, Fig. 1-9, the description).

As per claim 4, Ball et al. discloses wherein the framework is dynamically flexible (Abstract, Col. 4 lines 55-67, Col. 5 lines 1-48, Fig. 1-9, the description).

As per claim 5, Ball et al. discloses wherein input received is associated with a plurality of behavioral actions, and each inferred parameter value is determined by a combination of said plurality of behavioral action inputs (Fig. 1-17 and the description).

As per claim 6, Ball et al. discloses wherein the input comprises a set of at least one behavioral parameter value directly associated with output which generates the behavioral action, wherein in the step of inferring, at least one or more other behavioral parameter values are inferred by performing a reverse map through the framework from which further output is derived to generate additional behavior to the behavioral action (Fig. 1-17 and the description).

As per claim 11, Ball et al. discloses wherein said framework comprises a plurality of behavioral nodes associated with a function operating on one or more parameter values to provide output which modifies a characteristic of the behavior of the object, wherein the function operates on at least one global behavioral parameter associated with a mood state of the object, wherein whereby the behavior of the object provided by output from an output node of the framework is modified to indicate the mood the object is in (Fig. 1-17 and the description).

As per claim 12, Ball et al. discloses wherein the framework comprises a plurality of behavioral nodes associated with a function operating on one or more parameter values to

provide output which modifies a characteristic of the behavior of the object, wherein the function operates on at least one behavioral parameter value assigned uniquely to a behavioral node of the framework and wherein the output generated by a behavioral node of said framework from said input said function operate on an internal parameter value associated with a personality trait affecting a characteristic of the behavior of the object (Fig. 1-17 and the description).

As per claim 17, Ball et al. discloses wherein the equivalent behavior by the object comprises a plurality of behavioral actions performed in a predetermined sequence (Fig. 1-17 and the description).

As per claim 19 Ball et al. discloses wherein the plurality of behavioral actions are performed over a period of time (Fig. 1-17 and the description).

As per claim 20, Ball et al. discloses wherein one or more of said plurality of behavioral actions are performed simultaneously (Fig. 1-17 and the description).

As per claim 22, Ball et al. discloses wherein the received input is derived from a behavioral action by the object which has been induced by direct manipulation of the object by a human user (Fig. 1-17 and the description).

As per claim 23, Ball et al. discloses wherein the input is received by an input node and is derived from a behavioral action by one or more other objects interacting with the object (Fig. 1-17 and the description).

As per claim 27, Ball et al. discloses wherein the received input includes input associated with a behavioral action performed by a user of the behavioral controller (Fig. 1-17 and the description).

As per claim 29, Ball et al. discloses wherein said step of receiving input associated with one or more behavioral actions comprises:

assigning a value to a behavioral parameter set associated with a behavioral characteristic of the object using a behavioral design interface arranged to provide input to a behavioral controller of the object, each said behavioral parameter set comprising at least one parameter affecting the behavioral characteristic (Fig. 1-17 and the description);

associating each parameter in the parameter set with a parameter value obtained by performing a function on the assigned value with a default value defined by a behavioral profile (Fig. 1-17 and the description);

inputting the parameter value to the behavioral controller for the object;

wherein said step of generating equivalent behavioral by the object using the derived output (Fig. 1-17 and the description) comprises

associating the output with a behavioral action by the object (Fig. 1- 17 and the description); and

causing the object to perform the behavioral action (Fig. 1-17 and the description).

As per claim 42, Ball et al. discloses a behavioral controller arranged to generate behavior in an object (Fig. 1-17 and the description), the controller comprising:

a framework of nodes, at least one node being arranged to map input to output in both a forwards and backwards direction through said framework of nodes and at least one node arranged to assign a global framework parameter value (Fig. 1-17 and the description),

interface means for receiving input associated with one or more behavioral actions;

means for inferring for a plurality of behavioral nodes in said framework (Fig. 1-17 and the description), a behavioral parameter value for each node from said input in accordance with said behavioral framework (Fig. 1-17 and the description),

means for inferring from each of said behavioral parameter values one or more global parameter values for one or more global parameter nodes in said framework (Fig. 1-17 and the description);

means for mapping said global parameter values in a forwards direction through each behavioral node of said framework (Fig. 1-17 and the description);

means for deriving output from the inferred plurality of behavioral parameter values for behavioral output nodes of behavioral framework (Fig. 1-17 and the description); and

means to generate equivalent behavior by the object using the derived output (Fig. 1-17 and the description).

As per claim 43, Ball et al. discloses wherein the means to generate equivalent behavior comprise means to forward the output derived from the inferred behavioral parameter values to an animation system arranged to operate on the output to cause the appropriate behavior to be animated by the object (Fig. 1-17 and the description).

As per claim 49, Ball et al. discloses wherein output from the behavioral controller is provided in a form suitable for being received as input by a behavioral controller of another object (Fig. 1-17 and the description).

As per claim 50, Ball et al. discloses wherein the behavioral controller generates body language behavior and further comprises a body language translation element for mapping received input derived from behavior consistent with a first culture to input consistent with a body language of a second culture (Fig. 1-17 and the description).

As per claim 52, Ball et al. discloses wherein the object is a virtual object arranged to operate within a virtual environment is taken from any one of the group of virtual environments consisting of:

- a virtual computer game, a virtual on-line meeting, an on-line game, an on-line chat-room, an avatar hosted meeting (Fig. 1-17 and the description);
- an avatar counseling meeting (Fig. 1-17 and the description);
- an avatar based mediation environment (Fig. 1-17 and the description);
- an avatar based sales environment (Fig. 1-17 and the description);
- an on-line collaboration environment (Fig. 1-17 and the description);
- an on-line customer relationship management environment (Fig. 1-17 and the description).

As per claim 56, Ball et al. discloses wherein a software agent provides the input to an apparatus (Fig. 1-17 and the description).

As per claim 57, Ball et al. discloses a behavioral controller having a design interface (Fig. 1-17 and the description), the interface comprising:

means arranged to allow the assignment of a value to a behavioral parameter set, the parameter set comprising at least one parameter value associated with a behavioral characteristic of the object, wherein the value assigned using the interface is provided as input to the behavioral controller (Fig. 1-17 and the description).

As per claim 58, Ball et al. discloses a behavioral controller comprising a device arranged to have a suite of at least one computer program stored thereon, the suite of at least one computer program being executable on the device so as to cause the device to function as a behavioral controller (Fig. 1-17 and the description).

As per claim 67, Ball et al. discloses wherein the framework comprises a hierarchy of behavioral nodes, wherein each behavioral node is arranged to provide output through external output nodes to the input nodes in a behavioral framework of another object and to provide behavioral output through behavioral output nodes enabling the behavior of the object to be animated (Fig. 1-17 and the description).

As per claim 68, Ball et al. discloses wherein the object is a virtual object arranged to operate within a virtual environment (Fig. 1-17 and the description).

Claim Rejections - 35 USC § 103

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

7. The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

8. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

9. Claims 21 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ball et al. (US Patent No. 6,212,502), in view of Sato et al. (Autonomous Behavior Control of Virtual Actors Based on the AIR Model), and further in view of Hatlelid et al. (US Patent No. 6,522,333).

Ball et al. teaches most all of the instant invention as applied to claims 1-6, 11-12, 17, 19-20, 22-23, 27, 29, 42-43, 49-50, 52, 56-58, and 67-68 above.

As per claim 21, Ball et al. fails to explicitly teach wherein the behavior includes a behavioral action taken from a group including: eye gaze, limb movement, speech, stance.

Sato et al. teaches wherein the behavior includes a behavioral action taken from a group including: eye gaze, limb movement, and stance (Fig. 1-17 and the description).

Hatlelid et al. teaches eye gaze and speech (Fig. 4a and 10a, Col. 1 lines 32-40, Col. 3 lines 18-45).

Ball et al. and Hatlelid et al. are analogous art because they are both related to a modeling emotion and personality in a virtual environment.

Therefore, it would have been obvious to one of ordinary skill in the art of at the time the invention was made to have include the teaching of Sato et al. and Hatlelid et al., in the method of modeling and projecting emotion and personality from a computer user interface of Ball et al. because a facial movement like eye gaze and speech for a virtual behavior modeling is a well known process in a method for modeling and projecting emotion and personality in modeling of virtual behavior control. Sato et al. teaches an advantageous system that provides a simplified mechanism for determining human-like behavior (Abstract). Further, Hatlelid et al. teach the advantages of system that is compatible with the e-mail system and can also provide valuable emotional and behavioral information (Col. 1 lines 59-64).

Response to Arguments

10. Applicant's arguments filed 02/06/2008 have been fully considered but they are not persuasive.

Examiner respectfully withdraws *Double Patenting* in view of the amendment and/or applicant's arguments.

Examiner respectfully withdraws *Claim Rejections - 35 USC § 112* in view of the amendment and/or applicant's arguments.

Examiner respectfully withdraws *Claim Rejections - 35 USC § 101* in view of the amendment and/or applicant's arguments.

Applicant's arguments with respect to claim 1 and 42 have been considered but are moot in view of the new ground(s) of rejection in view of Ball et al. (US Patent No. 6,212,502).

Conclusion

11. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37

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CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

12. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Eunhee Kim whose telephone number is 571-272-2164. The examiner can normally be reached on 8:30am-5:00pm Monday to Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Paul Rodriguez can be reached on 571-272-3753. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Eunhee Kim/
Examiner, Art Unit 2123